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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/552,085	10/04/2005	Matthias Fehr	135428-2090	4150
20999 7590 11/19/2010 FROMMER LAWRENCE & HAUG 745 FIFTH AVENUE- 10TH FL. NEW YORK, NY 10151			EXAMINER LU, ZHIYU	
			ART UNIT 2618	PAPER NUMBER
			MAIL DATE 11/19/2010	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/552,085	<b>Applicant(s)</b> FEHR ET A	
	<b>Examiner</b> ZHIYU LU	<b>Art Unit</b> 2618	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 24 September 2010.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 28-34 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 28-34 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                    | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

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## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments filed 09/24/2010 have been fully considered but they are not persuasive.

Regarding rejections on claims 28, 30-31 and 33, applicant argued that Applicant Admitted Prior Art (hereafter AAPA) discloses circulator or isolator fixed to HF transmitter, and Courtney, Ono and Anzai are all non-analogous art. Applicant argued that Courtney and Ono teach radar application, which cannot perform wireless audio transmission to an external wireless receiver. Due to different applications, there is no way for obvious motivation to combine the prior arts.

However, the Examiner does not agree. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). As a primary reference, AAPA already teaches a wireless microphone system as applicant claimed. But, AAPA does not teach the objective of applicant's invention, such as the pluggable/interchangeable mechanical unit of the antenna and the circulator/HF isolator (paragraph 0012 of published application). Nevertheless, the concept of having interchangeable mechanical unit of the antenna and the HF isolator is not inventive. And Courtney teaches such concept (36 of Fig. 2, column 7 lines 20-29). While the backbone of applicant's claim is about the mechanical aspect of the antenna housing, applicant argued about the specific signal transmission of each secondary reference being different from instant application. Regardless what application the RF transmitter is in, the antenna and the circulator/HF isolator perform the

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same (e.g., respectively, guiding signal transmission, and routing outgoing and incoming signals between antenna, transmitter and receiver). Besides, the primary reference, AAPA, already teaches a wireless microphone that wirelessly transmits audio signals to an external wireless receiver. Courtney, Ono and Anzai are all in the field of RF transmitter with inherently using antenna unit, wherein Anzai's invention is about a replaceable antenna unit for portable communication device. Ono and Anzai further indicate that the mechanical aspects of applicant's claim limitations (e.g., arranging antenna and circulator in a common antenna unit housing and using screwing method to replace antenna unit housing) are not inventive steps either. Therefore, to one of ordinary skill in the art, Courtney, Ono and Anzai are not non-analogous art, and the replaceable mechanical features presented by Courtney, Ono and Anzai would have been obvious to be utilized in improving the wireless microphone of AAPA for convenient antenna component replacement.

Thus, the rejections are proper and maintained. The same goes to arguments on rejections of claims 29 and 33-34.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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2. Claims 28 and 30-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant Admitted Prior Art (hereafter, AAPA, citation refers to published application) in view of Courtney et al. (US6469658), Ono et al. (US5652589), and Anzai et al. (US5793331).

Regarding claim 28, AAPA teaches a wireless microphone system comprising:

an HF transmitter (known HF transmitter or wireless microphone of paragraph 0008) configured to wirelessly transmit audio signals to an external wireless receiver (external wireless receiver is obviously employed), said HF transmitter comprising:

a transmitter housing (inherent in wireless microphone, paragraph 0008);

at least one antenna unit having an antenna and a circulator or an HF isolator, the circulator or HF isolator being connected to the antenna (paragraph 0008);

But, AAPA does not expressly disclose a transmitting amplifier; but decoupling the antenna unit from the transmitting amplifier to ensure that the transmitting amplifier can operate in a constant operating range; said antenna and said circulator or said HF isolator being arranged in a common antenna unit housing; and wherein the antenna unit can be plugged in the transmitter housing or screwed onto the transmitter housing such that the antenna unit is replaceable as a unit.

Nevertheless, having a transmitting amplifier is a well-known practice in wireless communication.

Courtney et al. teach a RF transmitter having a transmitting amplifier (22 of Fig. 2); but decoupling the antenna unit (36 of Fig. 2) from the transmitting amplifier to ensure that the transmitting amplifier can operate in a constant operating range (non-variable amplifier provides constant operating range), antenna and HF isolator are arranged as interchangeable components (Fig. 2, column 7 lines 20-29), wherein the antenna unit can be connected with the transmitter

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housing such that the antenna unit is replaceable as a unit (Fig. 2), which would have been obvious to one of ordinary skill in the art to incorporate said transmitter structure into the system of AAPA, in order to provide convenient antenna adaption or replacement.

Moreover, it would have been obvious to one of ordinary skill in the art to put said antenna and circulator into a common housing for replacement, since it has been held that forming in one piece an article which has formally been formed in two pieces and put together involves only routine skill in the art, *Howard v. Detroit Stove Works*, 150 U.S.164 (1893).

Ono et al. further show that antenna and circulator can indeed be arranged in a common antenna unit housing (M of Fig. 3, column 5 lines 62-66), which would have been obvious to one of ordinary skill in the art to modify the system of AAPA and Courtney et al. by design preference.

Anzai et al. teach antenna unit can be screwed onto the transmitter housing (microphone itself) such that the antenna unit is replaceable as a unit (column 1 lines 55-60).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate replace antenna unit by screwing process taught by Anzai et al. into the wireless microphone system of AAPA, Courtney et al., and Ono et al., in order to replace and fix antenna unit.

Regarding claim 30, AAPA, Courtney et al., Ono et al., and Anzai et al. teach a pocket transmitter microphone as explained in response to claim 28 above.

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Regarding claim 31, AAPA, Courtney et al., Ono et al., and Anzai et al. teach a hand transmitter microphone as explained in response to claim 28 above.

Regarding claim 33, AAPA, Courtney et al., Ono et al., and Anzai et al. teach a wireless microphone device as explained in response to claim 28 above.

Regarding claims 32 and 34, AAPA, Courtney et al., Ono et al., and Anzai et al. teach the limitations of claims 28 and 33.

Courtney et al. teach wherein the antenna unit is tuned to a given frequency range (column 7 lines 22-24).

3. Claims 33-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant Admitted Prior Art (hereafter, AAPA, citation refers to published application) in view of Courtney et al. (US6469658), and Anzai et al. (US5793331).

Regarding claim 33, AAPA teach a wireless microphone device, comprising:

a receiving device (microphone) having at or in its high frequency input an antenna unit having an antenna said and a circulator or an HF isolator being connected to the antenna (paragraph 0008).

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But, AAPA does not expressly disclose said antenna and said circulator or said HF isolator being arranged in a common housing of the antenna unit; and wherein the antenna unit can be plugged in or screwed on such that the antenna unit is replaceable as a unit.

Courtney et al. teach in a RF transmitter where said antenna (36 of Fig. 2) and said circulator (24 of Fig. 2) being arranged as interchangeable components (Fig. 2, column 7 lines 20-29), wherein it would have been obvious to one having ordinary skill in the art at the time the invention was made to put said antenna and said circulator into a common housing for replacement, since it has been held that forming in one piece an article which has formally been formed in two pieces and put together involves only routine skill in the art. *Howard v. Detroit Stove Works*, 150 U.S. 164 (1893).

Anzai et al. teach antenna unit can be screwed on such that the antenna unit is replaceable as a unit (column 1 lines 55-60).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate replacing antenna unit by screwing process taught by Anzai et al. into the wireless microphone system of AAPA and Courtney et al., in order replace and fix antenna unit.

Regarding claim 34, AAPA, Courtney et al., and Anzai et al. teach the limitation of claim 33.

Courtney et al. teach wherein the antenna unit is tuned to a given frequency range (column 7 lines 22-24).



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4. Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant Admitted Prior Art (hereafter AAPA, citations refer to published specification) in view of Courtney et al. (US Patent#6469658), Ono et al. (US5652589), Anzai et al. (US Patent#5793331), and Kawasaki et al. (US2002/0197957).

Regarding claim 29, AAPA, Courtney et al., Ono et al., and Anzai et al. teach the limitation of claim 28.

AAPA, Courtney et al., Ono et al., and Anzai et al. teach a hand transmitter microphone or a pocket transmitter microphone, wherein at least one antenna unit is plugged in or screwed on to the hand transmitter microphone or the pocket transmitter microphone (paragraph 0008), but AAPA, Courtney et al., Ono et al., and Anzai et al. do not expressly disclose further comprising a receiver, and wherein at least one antenna unit is plugged in or screwed on to the receiver.

Kawasaki et al. teach a wireless microphone system having a transmitter microphone (101 of Fig. 1) and a receiver (102 of Fig. 1), where obviously antenna unit could be replaceable in view of Courtney's teaching (column 7 lines 20-29) for tuned frequency usage.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate a receiver for reception taught by Kawasaki et al. into the wireless microphone system of AAPA, Courtney et al., Ono et al., and Anzai et al., in order to receive microphone transmission with tuned frequency component.

***Conclusion***

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ZHIYU LU whose telephone number is (571)272-2837. The examiner can normally be reached on Weekdays: 9AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duc Nguyen can be reached on (571) 272-7503. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Zhiyu Lu  
Examiner  
Art Unit 2618

/Zhiyu Lu/  
Examiner, Art Unit 2618  
November 15, 2010